EL CAMINO AVENUE CRASHES

CORRIDOR CRASH SUMMARY (2009-2017)

ALL INJURY CRASHES	○ 117	○ 16	○ 11
FATAL AND SEVERE CRASHES	● 8	● 3	● 0

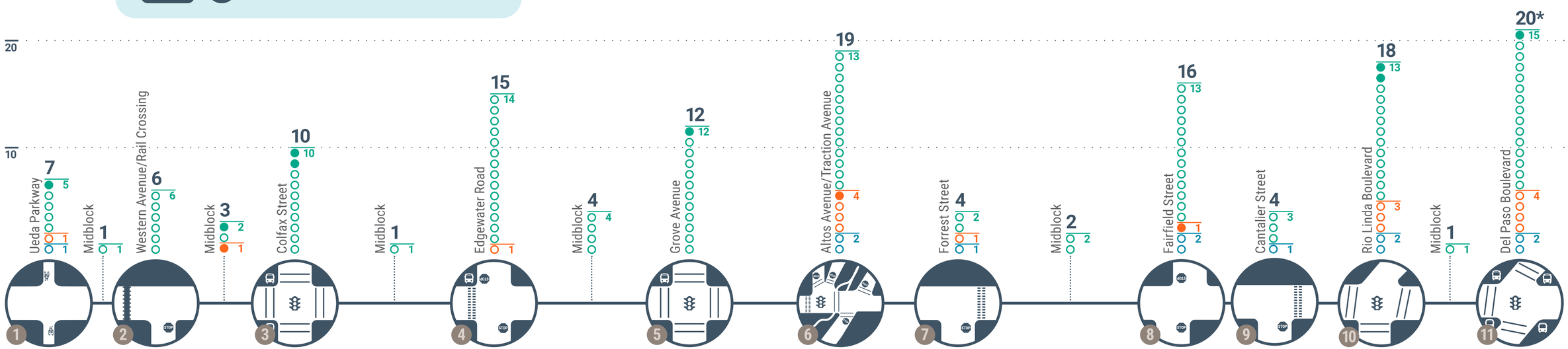
*One crash involved both a pedestrian and bicyclist, and is identified under both mode categories.

KEY CHARACTERISTICS

SPEED LIMIT 30

One travel lane in each direction.

Class II bicycle lanes along most of the corridor.



CORRIDOR-WIDE CRASH TYPES

VEHICLE

Unsafe Speed

"Unsafe Speed" was the most common violation, cited in 40% of all crashes.

1 2 3 4 5 6
7 8 9 10 11

Proceeding Straight

80% of drivers were proceeding straight or stopped at the time of the crash.

1 2 3 4 5 6
7 8 9 10 11

Signal or Sign Violation

"Traffic Signals and Signs" was the second most common violation category.

1 2 3 4 5 6
7 8 9 10 11

Rear End

Over 40% of all crashes were rear end.

1 2 3 4 5 6
7 8 9 10 11

Left Turns

70% of drivers who were turning at the time of the crash were making a left turn.

1 2 3 4 5 6
7 8 9 10 11

Broadside

30% of all crashes were broadside, also called T-Bone.

1 2 3 4 5 6
7 8 9 10 11

PEDESTRIAN

Pedestrian Crossing

The majority of people hit while walking were crossing. 2/3 of people were in the crosswalk.

1 2 3 4 5 6
7 8 9 10 11

Weekend

Nearly 2/3 of pedestrian crashes occurred on Friday, Saturday or Sunday.

1 2 3 4 5 6
7 8 9 10 11

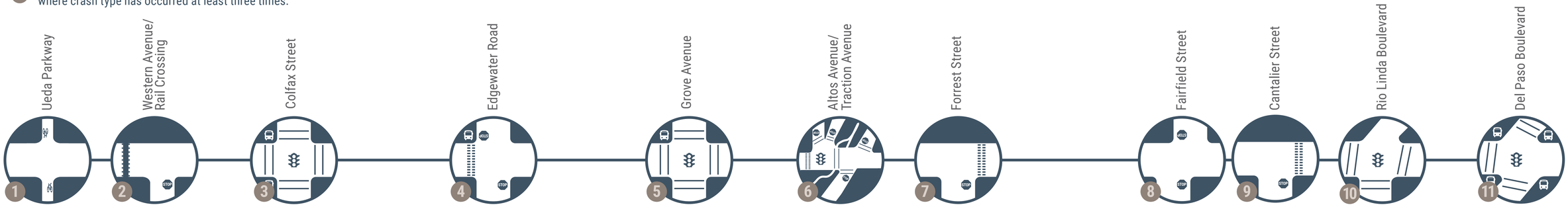
BICYCLE

Daytime

10 of 11 total bicycle crashes occured between 9 AM and 6 PM.

1 2 3 4 5 6
7 8 9 10 11

1 Numbers that are turned on represent a location where crash type has occurred at least three times.



EL CAMINO AVENUE
CORRIDOR-WIDE RECOMMENDATIONS

SPEED LIMIT 30

(XXX) Distance Between Crosswalks With Improvements

XXX Existing Distance Between Crosswalks

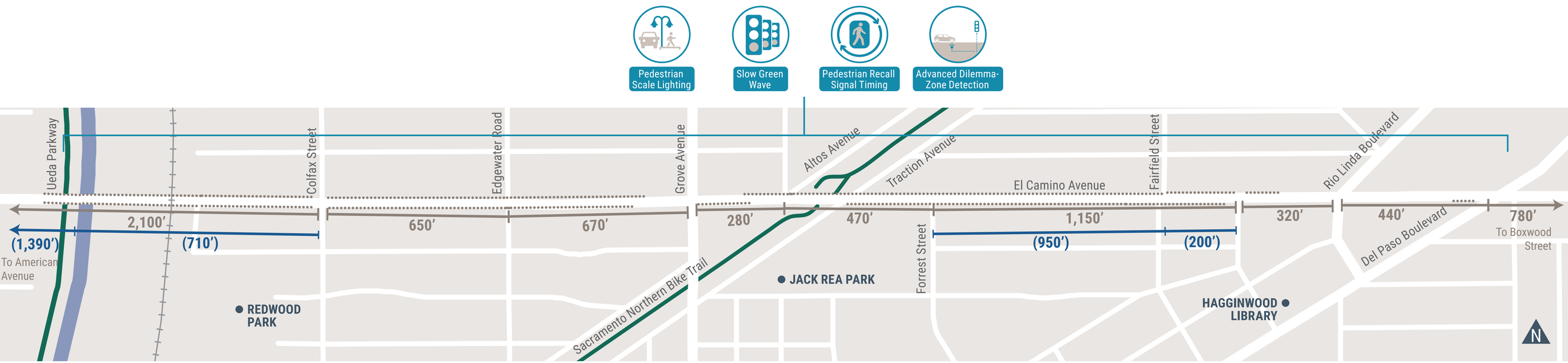
On-Street Bicycle Lane

What You See Today

Source: StreetMix (CC BY-SA 4.0, https://creativecommons.org/licenses/by-sa/4.0/)

What's Proposed

Corridor-Wide Recommendations



EL CAMINO AVENUE
RECOMMENDATIONS

SPEED LIMIT 30

(XXX) Distance Between Crosswalks With Improvements

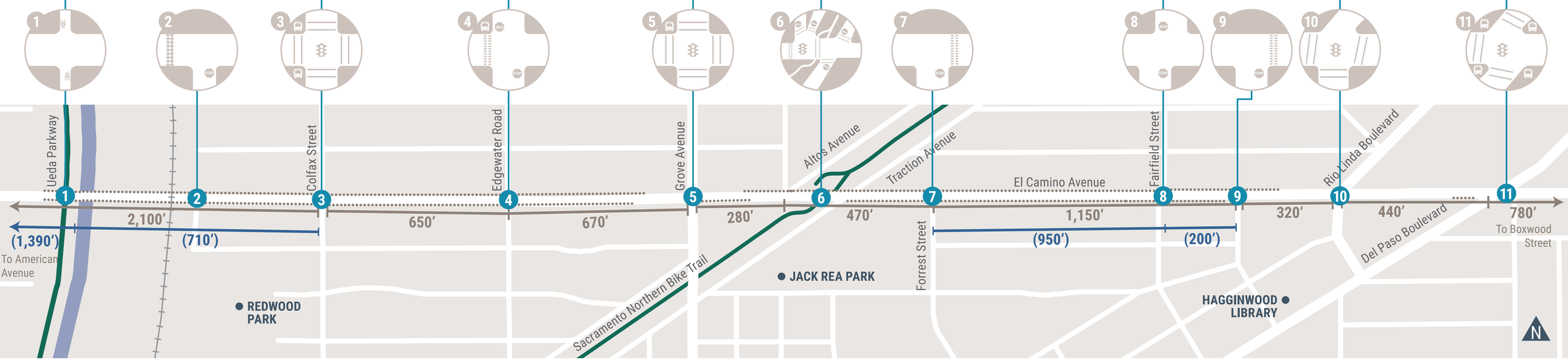
XXX Existing Distance Between Crosswalks

On-Street Bicycle Lane

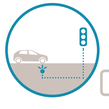
Location-Specific Recommendations

- Pedestrian Hybrid Beacon
- High Visibility Crosswalk
- Shorten Signal Cycle Length
- New Traffic Signal
- Shorten Signal Cycle Length
- Prohibit Left Turn
- Raised Median
- Close Sidewalk Gap
- Close Bike Lane Gap
- Consolidate Driveways
- Realign Intersection to 90 Degrees
- Road Closure
- High Visibility Crosswalk
- New Traffic Signal
- Roundabout
- New Traffic Signal
- High Visibility Crosswalk
- High Visibility Crosswalk
- Extend Signal Clearance Time
- Bulbout
- Straighten Crosswalk
- Dual Curb Ramps
- Close Bike Lane Gap
- Bicycle Conflict Zone Markings
- Partial Closure
- Pedestrian Scramble
- Prohibit Turns During Pedestrian Phase
- Bulbout

Existing Conditions



EL CAMINO AVENUE
IMPROVEMENTS



S4 40%

Advanced Dilemma-Zone Detection

Signals/Signage

Advanced dilemma-zone detection enhances safety at signalized intersections by modifying traffic control signal timing on the fly to reduce the number of drivers that may have difficulty deciding whether to stop or proceed during a yellow phase. This may reduce rear-end crashes associated with unsafe stopping and angle crashes due to red light running.

Bicycle Conflict Zone Markings

Bike Safety

Green pavement within a bicycle lane to increase visibility of bicyclists and to reinforce bicycle priority. The green pavement is used as a spot treatment in conflict areas such as driveways.

Bulbout

Crossings, Pedestrian Safety, Speed, Visibility

Raised devices, usually constructed from concrete, landscaping, or paint and plastic materials, that narrow the roadway to reduce speeds of turning vehicles, improve sight lines, and shorten pedestrian crossing distances.

R36 35%

Close Bike Lane Gap

Bike Safety

Closing gaps between bicycle lanes increases the amount of dedicated facilities bicyclists can use, reducing mixing of bicyclists and drivers and increasing network connectivity and visibility of bicyclists in the roadway.

R37 80%

Close Sidewalk Gap

Pedestrian Safety

Providing continuous sidewalks for pedestrians provides a separated facility for people to walk along the roadway, and can help minimize collisions with pedestrians walking in the road.

Consolidate Driveways

Bike Safety, Pedestrian Safety, Visibility

Reducing the number of driveway entrances/ exits through consolidation limits the exposure of bicyclists, pedestrians, and drivers to vehicles entering or exiting driveways, reducing conflicts.

Dual Curb Ramps

Pedestrian Safety

Dual curb ramps improve ADA accessibility at all intersection approaches so that pedestrians with mobility challenges, or those pushing carts or strollers, can safely enter and exit all crosswalks.

S3 15%

Extend Signal Clearance Time

Signals/Signage

Extending yellow and all red time allows drivers and bicyclists to safely cross through a signalized intersection before conflicting traffic movements are permitted to enter the intersection.

NS6/NS17/NS18 25-35%

High Visibility Crosswalk

Crossings, Pedestrian Safety, Visibility

A crosswalk designed to be more visible to approaching drivers, striped with ladder markings using high-visibility material such as thermoplastic tape instead of paint.

NS3 25%

New Traffic Signal

Signals/Signage

New traffic signals help organize travel of all modes at an intersection, limiting interactions between vehicles, pedestrians, and bicyclists with conflicting movements. New signals can have a traffic calming effect on long, high-speed straightaways.

Partial Closure

Bike Safety, Crossings, Pedestrian Safety

Partial closures, using a physical barrier across one direction of traffic at an intersection allow full bicycle and pedestrian passage while restricting vehicle access in one direction. This strategy can be used to minimize conflict points at complicated intersections.

NS19 55%

Pedestrian Hybrid Beacon

Crossings, Pedestrian Safety, Signals/Signage, Speed, Visibility

Pedestrian-activated beacon used at mid-block crosswalks to notify oncoming motorists to stop with a series of red and yellow lights.

Pedestrian Recall Signal Timing

Pedestrian Safety, Signals/Signage

Signals can be put in “recall” for key time periods of the day such as peak business hours or school drop-off/pick-up times. The “WALK” signal would be displayed every signal cycle without prompting by a pedestrian push button.

S1/NS1/R1 35-40%

Pedestrian Scale Lighting

Crossings, Pedestrian Safety, Visibility

Appropriate quality and placement of lighting can enhance an environment as well as increase comfort and safety. Pedestrian-scale lighting is lower in height than standard streetlighting and is spaced closer together.

35%

Pedestrian Scramble

Crossings, Pedestrian Safety, Signals/Signage

Restricts vehicular movements to provide an exclusive signal phase allowing pedestrians to cross in all directions, including diagonally.

R36 35% — Caltrans Local Road Safety Manual ID; Crash Reduction Factor

Safety Issue Categories

EL CAMINO AVENUE
IMPROVEMENTS

10%

Prohibit Left Turn

Bike Safety, Crossings, Pedstrian Safety, Signals/Signage

Bans left turns at locations where a turning vehicle may conflict with pedestrians in the crosswalk or where opposing traffic volume is high. Reduces pedestrian interaction with vehicles when crossing.

Prohibit Turns During Pedestrian Phase

Crossings, Pedestrian Safety, Signals/Signage

Restricts left or right turns during the pedestrian crossing phase at locations where a turning vehicle may conflict with pedestrians in the crosswalk. This restriction may be displayed with a blank-out sign.

S13/NS12/R9 25% - 45%

Raised Median

Crossings, Pedestrian Safety, Speed

Curbed sections in the center of the roadway that are physically separated from vehicular traffic. Raised medians can also help control access to and from side streets and driveways, reducing conflict points.

Realign Intersection to 90 Degrees

Crossings, Pedestrian Safety, Speed, Visibility

By eliminating acute or obtuse angles between intersection roadways, intersection sight distance may be improved, allowing drivers to see pedestrians more easily. Right-angle intersections can also help to slow down turning vehicles.

Road Closure

Bike Safety, Crossings, Pedestrian Safety

Road closures, using a physical barrier, allow full bicycle and pedestrian passage while restricting vehicle access. This strategy can be used to minimize conflict points at complicated intersections or to minimize conflicting movements due to turning vehicles.

S18 35-67%

Roundabout

Bike Safety, Pedestrian Safety, Signals/Signage

Roundabouts are large circular islands, placed in the middle of an intersection, which direct flow in a continuous circular direction around the intersection. Roundabouts can reduce the number of conflict points, compared to an uncontrolled intersection, and decrease vehicle speeds due to intersection geometry. Converting signalized intersections to roundabouts can be especially effective at complex intersections or intersections with high left-turn volumes.

S3 15%

Shorten Signal Cycle Length

Signals/Signage

Reducing the cycle length at intersections may reduce the delay experienced by vehicles, bicyclists, and pedestrians. When delay is significant, road users are more inclined to ignore signal indications.

Slow Green Wave

Signals/Signage, Speed

A series of traffic signals coordinated to allow for slower vehicle travel speeds through several intersections along a corridor. Coordinating signals for slower travel speeds gives bicyclists and pedestrians more time to cross safely and encourages drivers to travel at slower speeds.

Straighten Crosswalk

Crossings, Pedestrian Safety, Visibility

Straightening crosswalks improves sight lines, making pedestrians more visible to oncoming drivers, and may shorten the crossing distance, reducing the length of time required for pedestrians to cross an intersection.

R36 35%
Caltrans Local Road Safety Manual ID
Crash Reduction Factor

Safety Issue Categories